

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/047734 A1

(51) International Patent Classification⁷: F16H 15/38 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number: PCT/GB2004/004614

(22) International Filing Date: 1 November 2004 (01.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 0326205.2 11 November 2003 (11.11.2003) GB

(71) Applicant (for all designated States except US): TOROTRAK (DEVELOPMENT) LIMITED [GB/GB]; 1 Ashton Way, Leyland, Lancashire PR26 7UX (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): NEWALL, Jonathan, Paul [GB/GB]; 15A The Cherries, Euxton, Chorley, Lancashire PR7 6NG (GB).

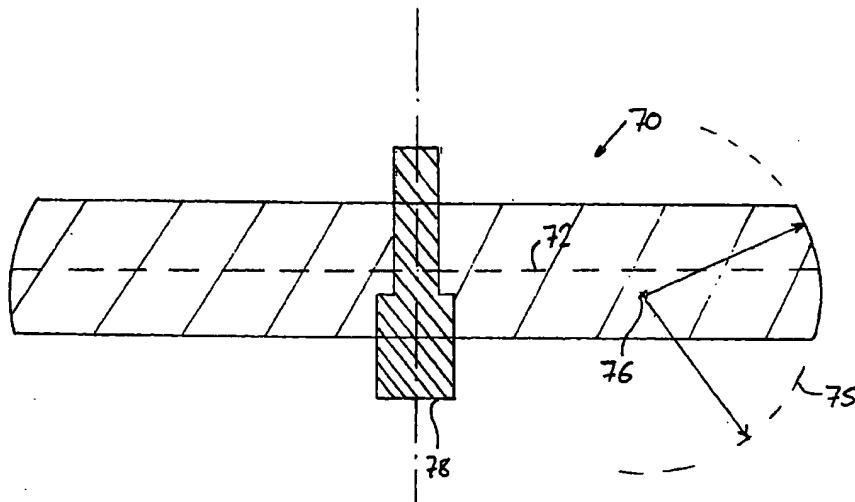
(74) Agent: W.P. Thompson & Co.; Coopers Building, Church Street, Liverpool L1 3AB (GB).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ASYMMETRIC ROLLER CROWN



(57) Abstract: The present invention is concerned with the formation of rollers in a rollingtraction toroidal-race type of continuously variable ratio transmission device ("variator"). Specifically, it concerns variators of the "full-toroidal" type in which the variator rollers (48) are permitted to adopt a position in which their centres are close to -or even coincident with - the center line of a toroidal cavity defined by races (30, 32, 42). It has been recognised that the roller centres do not, in such a variator, lie precisely upon the centre line of the variator cavities. Consequently in order to optimise roller performance there is provided, in accordance with the present invention, a roller (70) having an outer perimeter which, viewed in a sectional plane containing the roller axis, has a convex profile which is not symmetrical about any plane perpendicular to the roller axis.

WO 2005/047734 A1